horses, carts, and drivers. The removal of such trifles as foul straw and manure was deemed superfluous, and through this I had to wade towards the door of a room, and there wait till the coal in it was swept into a corner, and what looked like a brewing apparatus removed.

"There was no flooring, not even of bricks, and no furniture, but at the end of the room was a *kang*, or platform of loose boards, over what appeared to be an ash-pit, though the cinders, no doubt, represented the remains of fires for winter heating. Over this receptacle for rubbish of various kinds I was to sleep and eat."

Besides this, there was an intrusive crowd at the door and window, a flour-mill at work, and the jingling of horse and mule bells in the yard. "This went on all day; and what with the stench of manure, distracting noises, windows unglazed, and inquisitive visitors, my lodging proved to be the worst I had ever had." One man defended his intrusion on the traveller's privacy by asking, "Cannot I come into a room in my own country?"

Here the author was invited to breakfast with Kab-i-chang, the Commissary of Russo-Chinese affairs, where he found a variety of dishes, including black putrid eggs, a special delicacy in China.

After leaving China, Dr. Lansdell crossed the Tian Shan into Chinese Turkestan by the Muzart Pass, at a height of 11,000 or 12,000 feet. Here the Chinese picket did their best to smooth the way by laying boughs of trees across crevasses, and covering them with blocks of ice, for the men and horses to cross to the crest of the pass, a nearly perpendicular ice cliff with steps cut in it, down which horses are sometimes lowered by ropes; but in this case, one man took a horse's head, and another hung on by the tail, and thus, wonderful to relate, they contrived to descend in safety.

This formidable pass has, it appears, never been crossed before by any European; and from this point Dr. Lansdell proceeded to Aksu, the most important place on the way to Kashgar and Yarkand, where he found much to interest him, including criminals wearing the *cangue*, or wooden frame round the neck, a familiar punishment in China. Thence he travelled to Kashgar, passing, on the way, through a place called Maralbashi, where the chief mandarin has a drum before his door, and if this is struck, he is bound to attend at once to the appeal of any suppliant. But, to avoid any trouble, if the drum is struck, the mandarin orders the disturber of his peace one hundred lashes, and then asks his business.

From Kashgar Dr. Lansdell proceeded to Yarkand and Khotan, and at the latter place he witnessed a dance of dervishes, of which he gives an illustration. He was anxious, at Khotan, as well as elsewhere, to take photographs of some of the native beauties, but having no opportunity of seeing them unveiled, he was advised to tell his landlord that he wanted a pretty wife, and to ask him to bring him half a dozen on approval.

Here and there we meet with occasional natural history notes on collecting butterflies, or on birds, &c. observed. For example, we read (vol. ii. p. 270):—"Of aquatic birds I obtained specimens of the white-bellied dipper (*Cinclus leucogaster*) at Ak-Shor, and afterwards at Tribhun. We often noticed this little fisher boldly plunging into the swiftest torrents, seeking insects in a stream the half of which was congealed to solid ice." On the Kilian Pass, about the height of Mont Blanc, Dr. Lansdell had his first experience of mountain sickness. He slid off his yak, and attempted to run up a hill to shoot partridges, but was seized with palpitation of the heart, and was forced to sit down to rest immediately. He appears to have suffered more here than even on the great Karakorum Pass further south (18,800 feet instead of 16,000).

Thus our author gradually made his way to India, where we will now leave him. There are so many detached points of interest mentioned in his work, that our limited space has only permitted us to select a few, here and there, to show its interesting and varied character.

The book is dedicated "To his August and Imperial Majesty, the Emperor of China, &c., &c., &c."

W. F. KIRBY.

HUXLEY'S COLLECTED ESSAYS.

Collected Essays. By T. H. Huxley. Vol. I. "Methods and Results." (London: Macmillan and Co., 1893.)

THERE is probably no lover of apt discourse, of keen criticism, or of scientific doctrine who will not welcome the issue of Prof. Huxley's essays in the present convenient shape. For my own part I know of no writing which by its mere form, even apart from the supreme interest of the matters with which it mostly deals, gives me so much pleasure as that of the author of these essays. In his case more than in that of his contemporaries it is strictly true that the style is the man. Some authors we may admire for the consummate skill with which they transfer to the reader their thought without allowing him, even for a moment, to be conscious of their personality. In Prof. Huxley's work, on the other hand, we never miss his fascinating presence: now he is gravely shaking his head, now compressing the lips with emphasis, and from time to time with a quiet twinkle of the eye making unexpected apologies or protesting that he is of a modest and peace-loving nature. At the same time one becomes accustomed to a rare and delightful phenomenon. Everything which has entered the author's brain by eye or ear, whether of recondite philosophy, biological fact or political programme, comes out again to us—clarified, sifted, arranged, and vivified by its passage through the logical machine of his strong individuality.

These essays were, he says in preface, "written for the most part in the scant leisure of pressing occupations, or in the intervals of ill-health." Though the oldest bears the date of 1866, he finds, so far as their substance goes, nothing to alter in them. "Whether," he concludes, "that is evidence of the soundness of my opinions or of my having made no progress in wisdom for the last quarter of a century, must be left to the courteous reader to decide."

The first volume of the nine, which are to be issued monthly, owes its title to the inclusion therein of the famous essay "On Descartes' Discourse touching the method of using one's reason rightly," and of samples of the application of that method in various fields. Amongst the latter are the essays on the physical basis of life, on the hypothesis that animals are automata, on administrative nihilism, and on the natural inequality of men.

© 1894 Nature Publishing Group

The essay on animal automatism was delivered as an evening address at the meeting of the British Association at Belfast, when Tyndall was president. It was a truly marvellous performance, for it occupied nearly an hour and a half, and was delivered with an appearance of complete spontaneity and ease in the very words which are here printed, without a note or reference of any kind, by a man who, when he first attempted it, "disliked public speaking" and, as he tells us, had a firm conviction that he should break down every time he opened his mouth. To some readers, as to myself, the short "autobiography," with which the volume commences, will be new, and owing to its charming frankness and graceful reticence the most delightful chapter in it. Prof. Huxley, doubtless for good reasons, does not tell us where and under what circumstances each of these essays first saw the light, but the autobiography was apparently published with a photograph not many years ago. It is full of good things. The author confesses to having inherited from his father, as well as an inborn faculty for drawing, "a hot temper, and that amount of tenacity of purpose which unfriendly observers sometimes call obstinacy." He remembers preaching to his mother's maids in the kitchen, with his pinafore turned wrong side forwards in order to represent a surplice—"the earliest indication I can call to mind of the strong clerical affinities which my friend Mr. Herbert Spencer has always ascribed to me!" Of his schoolmasters he has nothing good to say—they "cared about as much for our intellectual and moral welfare as if they were baby-farmers." His great desire on leaving school was to be a mechanical engineer; but the fates were against this, and he commenced the study of medicine.

It is very interesting to those who know the value and range of his original researches in comparative anatomy to read the statement—

> "I am afraid there is very little of the genuine naturalist about me. I never collected anything, and species work was always a burden to me; what I cared for was the architectural and engineering part of the business, the working out the wonderful unity of plan in the thousands and thousands of diverse living constructions and the modifications of similar apparatuses to serve diverse ends."

I venture to think that it is not only as a mechanical engineer *in partibus infidelium*, as he says of himself, that Prof. Huxley has dealt with organic form, but also as an artist, a born lover of form, a character which others recognise in him though he does not himself set it down in his analysis.

Some day, it is to be hoped, Prof. Huxley will fill in the outlines of this autobiography, and especially give us an account of those long years of arduous work, of discoveries, struggles, triumphs, and friendships from the time when he succeeded his friend Edward Forbes in 1854 to the present day.

No better introduction can be given to Prof. Huxley's collected essays than his own statement of the objects which he has had in view during the years in which, whilst producing also educational books and many larger and strictly scientific works addressed to the limited circle of biological experts, he has by these occasional addresses and articles taught a vast number of his fellow-countrymen the value of scientific ways of thinking, and freed them from the fetters of orthodox superstition. These objects have been, he says—

> "To promote the increase of natural knowledge and to forward the application of scientific methods of investigation to all the problems of life to the best of my ability, in the conviction which has grown with my growth and strengthened with my strength that there is no alleviation for the sufferings of mankind except veracity of thought and of action, and the resolute facing of the world as it is when the garment of make-believe by which pious hands have hidden its uglier features is stripped off. It is with this intent that I have subordinated any reasonable, or unreasonable, ambition for scientific fame, which I may have permitted myself to entertain, to other ends; to the popularisation of science; to the development and organisation of scientific education; to the endless series of battles and skirmishes over evolution; and to untiring opposition to that ecclesiastical spirit, that clericalism, which in England, as everywhere else, and to whatever denomination it may belong, is the deadly enemy of science. In striving for the attainment of these objects, I have been but one among many, and I shall be well content to be remembered, or even not remembered, as such."

E. RAY LANKESTER.

THE PSYCHOLOGY OF TO-DAY.

Grundzüge der Physiologischen Psychologie. Von Wilhelm Wundt. 4te Auflage. (Leipzig: Wm. Engelmann, 1893.)

A NEW edition of this well-known work will be welcomed by all interested in this developing branch of science, and the author is to be congratulated on the fact that a work of this magnitude should reach its fourth edition in nineteen years.

The general plan of the work and the general opinions are unaltered, but there has been much revision and addition of detail throughout. The most extensive alteration consists in the much more detailed description of experimental methods, especially in the chapters on the intensity of sensation, and on Time problems. The descriptions are admirably clear, and their value is greatly increased by the addition of numerous woodcuts illustrating the apparatus employed.

In the first half of the book, which deals with the anatomy and physiology of the nervous system, one turns with interest to learn what the author has to say on the subject of cerebral localisation. Wundt opposes the notion that the physiological substrata of complex mental processes can be localised in a limited area of the brain, though he appears later to disregard this when he suggests that his process of apperception is localised in the præfrontal lobes. While accepting, however, the localisation of motor and sensory processes in a more or less general way, he hesitates to accept that definite localisation which the facts now at our disposal seem to justify, at any rate so far as concerns the so-called motor area. His attitude on this question is influenced by the fact that he regards the prevailing view as an outgrowth from the doctrine of specific nerve energy, of which he is a determined opponent. One of his chief arguments is derived from the phenomena of compensation when a part of the brain has been destroyed. Wundt's view of this process is that the functions of the destroyed part are taken on

© 1894 Nature Publishing Group